## REMARKS

Status of the Claims

Claims 1, 2, 4, 6-13, 19-22, 24, 25, and 29-32 are currently pending in the application.

Claim 1 is amended with entry of this amendment.

Claim 33 is added with entry of this amendment.

Claims 1, 2, 4, 6-13, 19-22, 24, 25, and 29-33 remain under consideration with entry of this amendment.

Summary

Claims 1, 2, 4, 6-13, 19-22, 24, 25, and 29-32 are pending in the application and were examined in the Office Action dated 31 May 2005. The Office has reopened prosecution of application and asserted the following new grounds of rejection: **(a)** claims 1, 2, 4, 6-13, 19-20, 22, 24, 25, 29, and 31-32 stand rejected under 35 U.S.C. §102(b) as unpatentable over U.S. Patent No. 5,087,244 to Wolinsky ("Wolinsky"); **(b)** claim 30 stands rejected under 35 U.S.C. §103(a) as unpatentable over Wolinsky; and **(c)** claim 21 stands rejected under 35 U.S.C. §103(a) as unpatentable over Wolinsky in view of U.S. Patent No. 6,113,915 to Aoki et al. ("Aoki"). Applicants respectfully traverse the new claim rejections for the following reasons.

Overview of the Amendment

Applicants, by way of this amendment, have amended claim 1 and added new claim 33. Specifically, claim 1 has been amended to remove the limitations from former claim 14. Support for the amendment to claim 1 can be found throughout the specification as originally filed, and in the claims as originally presented. The limitations from former claim 14 have been represented as new claim 33 that is dependent from claim 1. Support for new claim 33 can thus be found throughout the specification as originally filed, and in the claims as originally presented. Accordingly, no new matter

has been added by way of the amendment to claim 1 and the addition of new claim 33, and the entry thereof is respectfully requested.

The Rejection under 35 U.S.C. §102

Claims 1, 2, 4, 6-13, 19-20, 22, 24, 25, 29, and 31-32 stand rejected under 35 U.S.C. §102(b) as unpatentable over Wolinsky. Applicants respectfully traverse the rejection for the following reasons.

A claim is anticipated only if each and every element as set forth in the claim is found in a single prior art reference, that is, the identical invention must be shown in the prior art reference in as complete detail as is contained in the claim. See, e.g., *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051 (Fed. Cir. 1987); and *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913 (Fed. Cir. 1989). Claim 1 requires that the elongate body distal end outlet is disposed in the diffusion space. Claims 2, 4, 6-13, 19-20, 22, 24, 29 and 31 each depend from claim 1, either directly or indirectly, and thus contain this same limitation. New claim 33 likewise depends from claim 1 and contains the same limitation. The method recited in claim 25 also requires that the device has an elongate body distal end outlet that is disposed in the diffusion space. Claim 32 depends from claim 25 and thus contains this same limitation.

With regard to the Wolinsky device, the Office has equated their catheter shaft (reference number 10) with applicants' elongate body, and their balloon (reference number 16) with applicants' diffuser element. However, Wolinsky's outlet orifice (reference number 28) at the distal end of their catheter shaft (reference number 10) clearly is not disposed within the balloon (reference number 16). Rather, the outlet orifice (reference number 28) extends away from the balloon. See Figures 1, 2 and 7 of Wolinsky, and see the Wolinsky disclosure, column 3, lines 40-43. Accordingly, Wolinsky cannot anticipate applicants' claims.

In addition, the Office's attempt to define the Wolinsky balloon catheter as a diffuser element is scientifically flawed. Diffusion is a scientific term that refers to the random movement of free molecules or ions or small particles in solution or suspension under the influence of Brownian (thermal) motion toward a uniform distribution

throughout the available volume. See the definition from Stedman's Medical Dictionary attached hereto as Exhibit A. The thermal motion that influences diffusion is understood by the skilled person to be a passive force, not an active force (e.g., a driving, physical pressure). Diffusion of an agent from applicants' device is thus passive, the only driving force being the random (passive) movement of the agent molecules or particles responding to the concentration gradient set up between the inside of the diffuser element and the outside (body tissue). Applicants' "diffuser element" is defined on page 10 of the instant specification at paragraph [0047]. As can be seen, the element includes a diffusion barrier through which the drug (agent) is diffused.

The Office's contention that Wolinsky's inflatable balloon is in fact a diffuser element as recited in applicants' claims, and that the drug therefore passively diffuses across a diffusion barrier, is scientifically dead wrong and completely unsupportable. The Wolinsky balloon has "minute" holes of about 25 microns in diameter in the material (Wolinsky, col. 4, lines 1-11), and the device is operated under pressure (2-5 atm) to force the medication or chemotherapeutic agent out through the inflated holes. This is not passive diffusion! The Wolinsky device uses active physical pressure to force the drug through the inflated holes of the balloon. Accordingly, the Wolinsky device does not include a diffuser element, and cannot anticipate applicants' claims.

The Office's contention that Wolinsky's inflatable balloon is in fact a diffuser element as recited in applicants' claims, on the basis that "when fluid pressure from the source of medicine is discontinued, some fluid from the patient's body may enter [the balloon]" is scientifically dead wrong and completely unsupportable. The only way for the liquid medicine to leave the Wolinsky balloon is when 2-5 atm of pressure is used to force the medication or chemotherapeutic agent out through the inflated holes, and this is only sufficient to provide a maximum flow rate of about 2 to 12 cc per minute, which is referred to as "weeping in nature" (Wolinsky, col. 4, lines 19-36). When would the patient's body fluid enter the balloon? During operation, there is positive pressure (2-5 atm) that would clearly prevent this from happening, and once that pressure is discontinued, the holes close up. This contention is also legally flawed. In this regard, the Office is asserting a theory of inherency by arguing that something ***may*** happen,

wherein this possibility is scientifically implausible. This is simply not sufficient under a Section 102 inherency rejection, since it is clearly the Office's burden to provide extrinsic evidence that the Wolinsky device would necessarily act in this manner, and further that this feature would be recognized by persons of ordinary skill. *Continental Can Co. USA v. Monsanto Co.*, 20 USPQ2d 1746, 1749 (Fed. Cir. 1991). Accordingly, the Wolinsky device does not include a diffuser element, and cannot anticipate applicants' claims.

The Office's contention that Wolinsky's inflatable balloon is in fact a diffuser element as recited in applicants' claims, on the basis that "when the balloon is deflated by aspirating through the inflation/deflation lumen to cause the balloon to collapse, some fluid from the patient's body may enter [the balloon]" is scientifically dead wrong and completely unsupportable. This is not passive diffusion, it is aspiration! Here again, the Office's contention is also legally flawed. The Office is again asserting a theory of inherency by arguing that something ***may*** happen, wherein this possibility is scientifically implausible. This is simply not sufficient under a Section 102 inherency rejection, since it is clearly the Office's burden to provide extrinsic evidence that the Wolinsky device would necessarily act in this manner, and further that this feature would be recognized by persons of ordinary skill. Accordingly, the Wolinsky device does not include a diffuser element, and cannot anticipate applicants' claims.

For all of these reasons, then, the rejection of claims 1, 2, 4, 6-13, 19-20, 22, 24, 25, 29, and 31-32 under 35 U.S.C. §102(b) is improper. Reconsideration and withdrawal of the rejection in thus earnestly solicited. In addition, new claim 33 is patentably distinct from and not anticipated by Wolinsky for these same reasons.

The Rejections under 35 U.S.C. §103

Claim 30 stands rejected under 35 U.S.C. §103(a) as obvious over Wolinsky. Applicants respectfully traverse the rejection.

As established above, the Wolinsky device clearly does not include a diffuser element. Since there is no diffuser element (and thus no diffusion barrier), there cannot possibly be a Diffusion Coefficient value. Accordingly, the rejection of claim 30 under

35 U.S.C. §103(a) is improper. Reconsideration and withdrawal of the rejection is respectfully requested.

Claim 21 stands rejected under 35 U.S.C. §103(a) as obvious over Wolinsky in view of Aoki. Applicants respectfully traverse the rejection. Wolinsky clearly does not teach or suggest a device comprising a diffuser element as demonstrated above, and the secondary reference to Aoki is likewise silent on the issue. Accordingly, Wolinsky and Aoki, whether considered alone or in any conceivable combination, cannot destroy the patentability of claim 21. Reconsideration and withdrawal of the rejection of claim 21 under 35 U.S.C. §103(a) is thus earnestly solicited.

## ASSOCIATED PAPERS OR DOCUMENTS

Applicants have attached as Exhibit A to this Response page 393 from Stedman's Medical Dictionary, along with the bibliographic information for that reference.

## CONCLUSION

Applicants submit that the pending claims define an invention that is both novel and nonobvious over the cited art, and thus all claims are in condition for allowance. Acknowledgement of this by the Office in the form of an early allowance is thus respectfully requested. In addition, if the Examiner contemplates other action, or if a telephone conference would expedite allowance of the claims, applicants invite the Examiner to contact the undersigned at (408) 777-4915.

The fees for a two-month extension of time have been included with this communication, and no further fees are deemed necessary. However, if the Commissioner determines that additional fees are indeed necessary, or that no fees are

due, the Commissioner is hereby authorized to charge any additional fees associated with this communication, or refund any inappropriate fees to Deposit Account No. **50-1953.**

Respectfully submitted,

Date: 28 October 2005

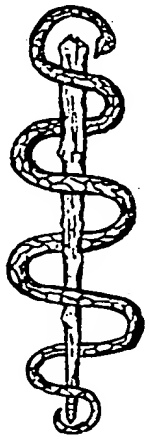
Thomas P. McCracken
Registration No. 38,548

For and on behalf of
DURECT CORPORATION
10240 Bubb Road
Cupertino, CA 95014
Phone: (408) 777-4915
Fax: (408) 777-3577

EXHIBIT A



# Stedman's MEDICAL DICTIONARY



ILLUSTRATED

*A vocabulary of medicine and its allied sciences, with pronunciations and derivations*

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WILLIAMS & WILKINS
Baltimore/London

*Made in the United States of America*

Library of Congress Cataloging in Publication Data
Reprinted 1977
Reprinted 1978
Reprinted March 1979
Reprinted December 1979

Stedman, Thomas Lathrop, 1853 1938.
Stedman's medical dictionary, illustrated.

First published in 1911 under title: A practical medical dictionary.
1. Medicine—Dictionaries. I. Title.
R121.S8 1976 610'.3 75-4993
ISBN 0-683-07924-7

Composed and printed at the
Waverly Press, Inc.
Mt. Royal and Guilford Aves.
Baltimore, Md. 21202, U.S.A.

'-Iminodiethanol; used as an
sing agent in cosmetics and

e. DIPARCOL; 10-(2-die-
ıe hydrochloride; used as an-
ıticholinergic properties.
. under *fatty acid.*
2. A prefix denoting the pres-
ı the molecule.
:c ether; anesthetic ether; ethyl
ı pungent, volatile liquid the
alation anesthesia; introduced
ul surgical anesthetic.
ose. DEAE-cellulose (see un-

Barbital.
ıte (USP, BP). HETRAZAN;
-methyl-1-piperazinecarboxa-
:rofilaricide, though relatively
.lt filariae. May provoke an
n onchocerciasis, it may pro-
ns, believed to be due to the
riae.
razine.
)ioxane; a colorless liquid used
:rs and in histology as a drying

:etic acid. Penthanil; DTPA;
with affinity for heavy metals;
n chelate in the treatment of
soning from heavy metals and
so ethylenediaminetetraacetic

'il-mal-o-nil-u-re'ah). Barbital.
oride (NF). TENUATE, TEPA-
ıopropanone-1 hydrochloride;
related chemically to amphet-
ıhe appetite. Central nervous
ı to be less pronounced than
ugs.
-stil-bes'trol) (USP). Stilboes-
hydroxy-α,β-diethylstilbene; a
ound, not a steroid, possessing
:en orally or by injection. Also
'e (USP) and the dipropionate

)elphene; OFF; *N,N*-diethyl-*m*-

; *N,N*-diethyltryptamine; a hal-
o dimethyltryptamine.
:xpert in dietetics; one versed in
f diet in the prophylaxis and

physician, 1804–1878. See D.'s

gic field dealing with the interre-
pe, diet, and various food re-

y; trophotherapy; the treatment
the diet.
Georges, Paris physician,
*n, theory.*
)-carbon open chain hexaiso-
:al occurring as a side chain in

)-Cyano-3,3-diphenylpropyl)-4-
n antiperistaltic drug.
le or degree by which one quan-
f the same kind.
xide d., the d. in carbon dioxide
cent) between the arterial and

the d. in the oxygen content (in
n arterial and venous bloods.
ical psychology, deviations of
ıp average or from each other.
nt sensitivity of the two eyes; (2)
*shold.*









**standard error of d.,** a statistical index of the probability that a difference between two sample means is greater than zero.

**differential** (dif'er-en'shal) [ L. *dif-fero,* to carry apart (intrans.), differ, fr. *dis,* apart ]. Relating to or characterized by a difference; distinguishing.
**threshold d.,** d. *threshold.*

**differentiated** (dif'er-en'shī-a-ted). Having a different character or function from the surrounding structures or from the original type; said of tissues, cells, or portions of the cytoplasm.

**differentiation** (dif'er-en'shī-a'shun). 1. Specialization (2); the acquiring or the possession of character or function different from that of the original type. 2. Differential *diagnosis.* 3. Partial removal of a stain from a histologic section to accentuate the staining differences of tissue components.
**correlative d.,** d. due to the interaction of different parts of an organism.
**invisible d.,** chemodifferentiation.

**diffluence** (dif'lu-ens) [ L. *dif-fluo,* to flow in different directions, dissolve (*dis-,* apart) ]. Deliquescence; the process of becoming fluid.

**diffraction** (dī-frak'shun) [ L. *dif-fringo,* pp. *-fractus,* to break in pieces. FRA- ]. The deflection of the rays of light from a straight line in passing by the edge of an opaque body.

**diffusate** (dī-fu'zāt) [ L. *dif-fundo,* pp. *-fusus,* to pour in different directions ]. Dialysate.

**diffuse** (dī-fūz') [ L. *dif-fundo,* pp. *-fusus,* to pour in different directions ]. Spread about, not circumscribed or limited.

**diffu'sible.** Capable of diffusing; not bound.

**diffusion** (dī-fu'zhun). 1. The random movement of free molecules or ions or small particles in solution or suspension under the influence of Brownian (thermal) motion toward a uniform distribution throughout the available volume. The rate is relatively rapid among liquids and gases, but takes place very slowly among solids. 2. Dialysis.
**gel d.,** d. in a gel, as in the case of gel diffusion precipitin tests (*q.v.*) in which the immune reactants diffuse in agar.

**diflu'anine hydrochloride** (USAN). 1-(2-Anilinoethyl)-4-[ 4,4-bis(*p*-fluorophenyl)butyl ]piperazine trihydrochloride; an analeptic drug.

**diflucor'tolone** (USAN). 6α,9-Difluoro-11β,21-dihydroxy-16α-methylpregna-1,4-diene-3,20-dione; a glucocorticoid steroid.

**diflu'midone sodium** (USAN). 3'-Benzoyl-1,1-difluoromethanesulfonanilide sodium salt; anti-inflammatory drug.

**diflupred'nate** (USAN). 6α,9-Difluoro-11β,17,21-trihydroxypregna-1,4-diene-3,20-dione 21-acetate 17-butyrate; anti-inflammatory drug.

**digamet'ic** (di-gă-met'ik). Heterogametic.

**digastric** (di-gas'trik) [ G. *di-,* two, + *gastēr,* belly ]. 1. Having two bellies; denoting especially a muscle with two fleshy parts separated by an intervening tendinous part. 2. *Musculus* digastricus. 3. Relating to the d. muscle; denoting a fossa or groove with which it is in relation and a nerve supplying its posterior belly.

**digas'tricus** [ L. ] [ NA ]. Digastric; denoting the *musculus* digastricus.

**Digenea** (di-je'ne-ah) [ G. *di-,* two, + *genesis,* generation ]. Subclass of parasitic flatworms of the class Trematoda or flukes, characterized by a complex life cycle involving developmental multiplying stages in a mollusc intermediate host and adult stage in a vertebrate, often involving an additional transport or true intermediate host; includes all of the common flukes of man and other mammals.

**digenesis** (di-jen'ĕ-sis) [ G. *di-,* two, + *genesis,* generation ]. Reproduction in different ways in different generations, as seen in the nonsexual, or vertebrate, and the sexual, or invertebrate, cycles of the malarial and other parasites.

**digenetic** (di-jĕ-net'ik). 1. Heteroxenous; pertaining to or characterized by digenesis. 2. Pertaining to the digenetic fluke.

**Di George,** Angelo M., U. S. pediatrician, *1921. See D. G. *syndrome.*

**digest** (dī-jest') [ L. *digero,* pp. *-gestus,* to force apart, divide, dissolve. GEST- ]. 1. To soften by moisture and heat. 2. To hydrolyze or break up into simpler chemical compounds by means of hydrolyzing enzymes or chemical action; denoting the action of the secretions of the alimentary tract upon the food. 3 (di'gest). The materials resulting from digestion or hydrolysis.

**diges'tant** 1. Aiding digestion. 2. An agent that favors or assists the process of digestion.

**diges'ter.** One who or that which digests.
**Papin's d.,** a metallic vessel with a hermetically tight lid, provided with a safety valve, used for subjecting substances to the action of water at a temperature above 212°F.; it was originally devised to prove that when the pressure on a liquid is raised its boiling point is also raised.

**digestion** (dī-jes'chun, di-jes'chun) [ L. *digestio,* see digest ]. 1. The process of making a digest. 2. The process whereby the ingested food is converted into material suitable for assimilation for synthesis of the tissues or the liberation of energy.
**gastric d.,** that part of d., chiefly of the proteins, carried on in the stomach by the enzymes of the gastric juice.
**intercellular d.,** d. in a cavity by means of secretions from the surrounding cells, such as occurs in the metazoa.
**intestinal d.,** that part of d. carried on in the intestine; it affects all the foodstuffs: starches, fats, and proteins.
**intracellular d.,** d. within the boundaries of a cell, such as occurs in the protozoa and in phagocytes.
**pancreatic d.,** d. in the intestine by the enzymes of the pancreatic juice.
**peptic d.,** gastric d.
**primary d.,** d. in the alimentary tract.
**salivary d.,** the conversion of starch into sugar by the action of salivary amylase.
**secondary d.,** the change in the chyle effected by the action of the cells of the body, whereby the final products of d. are assimilated in the process of metabolism.

**digestive** (dī-jes'tiv). 1. Relating to digestion. 2. Digestant (2).

**digilanide A, B, and C.** See lanatoside A, B, and C.

**digin** (dij'in). Gitogenin.

**diginigenin** (dij'ī-nī-jen'in). 3β-Hydroxy-12α,20α-epoxy-14β,17α-pregn-5-ene-11,15-dione (for pregnene structure, see steroids); the steroid glycone derived from diginin by hydrolysis.

**diginin** (dij'ī-nin). An inactive steroid glycoside isolated from the leaves of *Digitalis purpurea* (the seeds of which are the source of digitonin); yields diginigenin and diginose upon hydrolysis.

**diginose** (dij'ī-nōs). 3-Methyl-2,6-dideoxy-D-glucose; a sugar obtained by acid hydrolysis of diginin.

**digit** (dij'it) [ L. *digitus* ]. A finger or toe; see digitus.
**clubbed d.'s,** Hippocratic fingers; clubbed fingers; drumstick fingers; a bulbous enlargement of the terminal phalanges, with coarse, longitudinally curved nails, seen in heart disease, phthisis, pulmonary osteoarthropathy, and certain other pulmonary affections.

**digital** (dij'ī-tal). Relating to or resembling a digit or digits or an impression made by them.

**digitalin** (dij'ī-tal'in, -ta'lin). A mixture of glycosides obtained from digitalis.
**Nativelle's d.,** digitoxin.
**d. verum,** true d.; Schmiedeberg's d.; a glycoside, $C_{36}H_{56}O_{14}$, from the seeds of *Digitalis purpurea,* occurring as a white amorphous or granular powder.

**digita'lis** [ L. ] [ NA ]. Digital.

**digitalis** (dij'ī-tal'is, -ta'lis) [ L. *digitalis,* relating to the fingers; in allusion to the finger-like flowers ]. Foxglove, purple foxglove; fairy gloves; a genus of perennial flowering plants of the family Schrophulariaceae. *D. lanata,* a European species, and *D. purpurea* are the main sources of cardioactive steroid glycosides used in the treatment of certain heart diseases, especially heart failure. The glycosides of *D. purpurea* are digitoxin, gitoxin, and gitalin; the aglycones are the steroids digitoxigenin, gitoxigenin, and gitaligenin (gitoxigenin hydrate). The glycosides of *D. lanata* are digitoxin, gitoxin, and digoxin, and the steroid